the eclipse, with an exposure of nearly a minute, shows very finely the green coronal ring, corresponding to the old "1474 line," and several others in addition. These are all in the violet part of the spectrum, and are extremely faint, excepting one which is a little below H. They are all probably due to the same hypothetical element, still unidentified, but provisionally named "coronium." The photograph also seems to make it certain that hydrogen, helium, and calcium, though brilliantly conspicuous upon the plate in the images of the prominences, are entirely absent from the corona, a result agreeing with that deduced from similar photographs made in 1893, but only recently published. It is quite clear that the earlier observations (referred to on pages 260, 261, and 262) were misleading from the fact that the apparatus did not sufficiently guard against the effects of illumination of the air by light from the prominences.

C. A. Young.

NOTE ON THE PRESENCE OF VANADIUM IN RUTILE.

In connection with Professor Hasselberg’s "Note on the Chemical Composition of the Mineral Rutile" in the last number of this Journal, Professor Rowland wishes to have it stated that he discovered all the important vanadium lines in the spectrum of rutile some four or five years ago. He also found traces of vanadium in specimens of titanic acid, and noticed that the strongest of the vanadium lines were given in Kayser and Runge’s tables as iron lines.

NOTE ON THE RELATIVE FREQUENCY OF THE H AND K LINES IN THE SPECTRUM OF THE CHROMOSPHERE.

In Sir William and Lady Huggins’ interesting and important article (p.77) reference is made to the fact that H and K are recorded with relative frequencies of 75 and 50, respectively, in Young’s Catalogue of the Chromosphere Lines. It has seemed to me desirable to point out that in all probability a relative frequency of 100 would have been ascribed to both lines had photographic rather than visual methods been employed in Professor Young’s very important work at Mt. Sherman. During my four years of solar work at the Kenwood Observatory I do not remember that I ever photographed the ultra-violet spectrum of
the chromosphere and prominences without recording both of these lines. Moreover, K is almost invariably stronger than H in such spectra. The only way in which I can account for the values of the relative frequency given by Professor Young is by supposing that his eye is decidedly more sensitive to H light than to the more refrangible light of the K line. I think Professor Young will agree with me as to the contradictory evidence afforded by the photographic method.

I mention this point, not because it has any bearing upon Sir William Huggins' valuable conclusions, but rather because it would seem that in this critical region of the spectrum, photographic results are to be preferred to those obtained visually.

George E. Hale.

NOTICE REGARDING REPRINTS.

The attention of contributors to the Astrophysical Journal is called to the fact that hereafter one hundred reprints, bound in covers, of each article accepted for publication will be furnished to the author free of charge, provided a request to this effect is sent with the manuscript.

Since the above note was written I have received the following letter from Professor Young, which goes to confirm the opinion expressed regarding the relative frequency of the H and K lines: "The numbers given in my catalogue of chromosphere lines were intended to represent the relative frequency with which I was able to observe them in 1872; and K is a good deal more difficult to observe visually than H, from being nearer to the limit of ordinary visual observation in the spectrum. Later, by the help of the fluorescent eyepiece I carried the limit up above 3875, and was able to observe H at 3889. Even before your photographic operations I had become satisfied that both H and K were always present in the chromosphere spectrum, though I was not able to observe them both. I have not my books with me, and cannot now give references, but am very sure that I had printed that opinion more than ten years ago, probably in one of my 'spectroscopic notes' in the American Journal of Science. I think it quite likely, as you suggest, that my eye falls off more rapidly in sensitiveness towards the violet end of the spectrum than is the case with many. I know that Dr. Brackett can always see further above K than I can: in fact, with me it is usually pretty hard to see K at all except with the interposition of a purple glass to cut off the rest of the light."